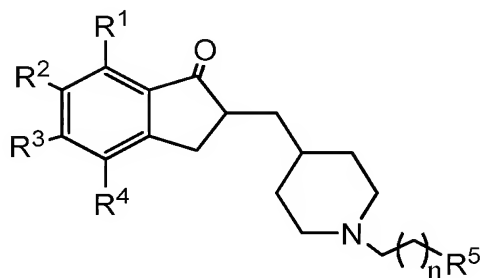


Amendments to the Claims:

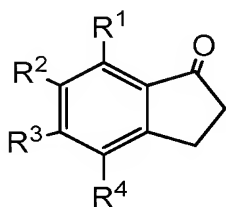
1. (Currently amended) A process for producing a compound of formula (I),



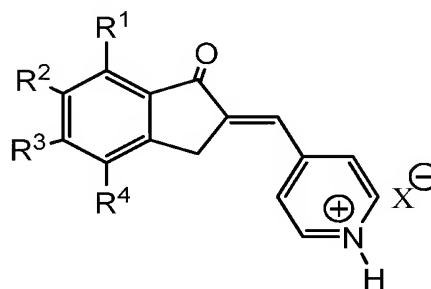
(I)

wherein R¹ and R⁴ independently represent H, R², and R³, and R⁴ each independently ~~represents~~ represent H, F, an alkyl having from 1 to 4 carbon atoms, or an alkoxy having from 1 to 4 carbon atoms; R⁵ represents a phenyl or a substituted phenyl; and n is 0, wherein the process comprises:

a) a reaction of 4-pyridinecarboxaldehyde with a compound of formula (II) in refluxing toluene or benzene to form, in the presence of a stoichiometric amount or a greater than a stoichiometric amount of a strong acid selected from an alkyl sulfonic acid, benzene sulfonic acid, or a substituted benzene sulfonic acid, ~~hydrochloric acid, sulfuric acid, nitric acid, or phosphoric acid,~~ a compound of the formula (III);



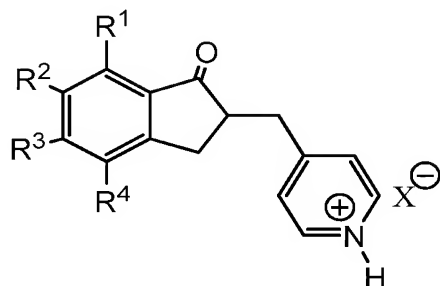
(II)



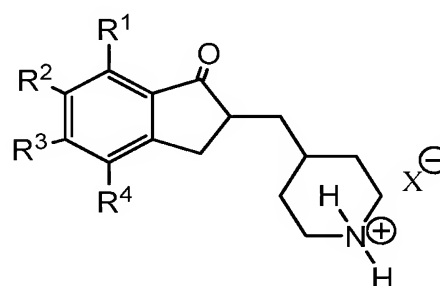
(III)

b) a catalytic hydrogenation of a compound of formula (III) or the compound of formula (V) in a solvent selected from water, an alcohol, an ether, an ester, or an organic acid, at a temperature of between about 0°C and about 150°C, in the presence

of a catalyst selected from platinum, palladium, nickel, ruthenium, or salts or oxides thereof, and at a pressure of between about 1 atmosphere and about 100 atmospheres of H₂ to yield a compound of formula (IV); and



(V)



(IV)

c) an N-alkylation reaction of a compound of formula (IV) with a compound of formula Y-(CH₂)_{n+1}R⁵, wherein Y represents a chlorine atom, a bromine atom, or an iodine atom, R⁵ represents a phenyl or a substituted phenyl, and n is 0; in the presence of base at a temperature of from about 0°C to about 150°C to yield a compound of formula (I);

wherein X⁻ is an alkyl sulfonate, benzene sulfonate, or a substituted benzene sulfonate, ~~a chloride, a sulfate, a nitrate, or a phosphate.~~

2-3. (Canceled)

4. (Previously presented) The process of claim 1 wherein a compound of formula (IV) is produced by the catalytic hydrogenation of a compound of formula (III).

5. (Previously presented) The process of claim 1, wherein a compound of formula (IV) is produced by catalytic hydrogenation of a compound of formula (V).

6-11. (Canceled)

12. (Currently amended) The process of ~~claim 2~~ claim 1, wherein R¹ represents hydrogen; R² represents a methoxy; R³ represents a methoxy; R⁴ represents hydrogen; R⁵ represents a phenyl or a 3-fluorophenyl; n is 0; said strong acid is selected from methyl sulfonic acid, benzene sulfonic acid, or p-toluenesulfonic acid; and Y represents a chlorine, a bromine, or an iodine.
- 13-14. (Canceled)
15. (Previously presented) The process of claim 1, wherein within said compound of formula (III) R¹ represents hydrogen, R² represents methoxy, R³ represents methoxy, R⁴ represents hydrogen; said strong acid is selected from methyl sulfonic acid, benzene sulfonic acid, or p-toluenesulfonic acid, wherein said compound of formula (IV) is produced from a compound of formula (III) by catalytic hydrogenation, wherein the catalyst is platinum, palladium, nickel, ruthenium, or salts or oxides thereof.
16. (Previously presented) The process of claim 4, wherein within said compound of formula (III) R¹ represents hydrogen, R² represents methoxy, R³ represents methoxy, R⁴ represents hydrogen; said strong acid is selected from methyl sulfonic acid, benzene sulfonic acid, or p-toluenesulfonic acid, wherein said compound of formula (IV) is produced from a compound of formula (III) by catalytic hydrogenation, wherein the catalyst is platinum, palladium, nickel, ruthenium, or salts or oxides thereof.
17. (Currently amended) The process of claim 5, wherein within said compound of formula ~~(III)~~ (V) R¹ represents hydrogen, R² represents methoxy, R³ represents methoxy, R⁴ represents hydrogen; said strong acid is selected from methyl sulfonic acid, benzene sulfonic acid, or p-toluenesulfonic acid, wherein said compound of formula (IV) is produced from a compound of formula ~~(III)~~ (V) by catalytic

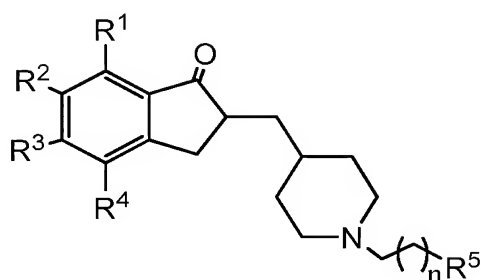
hydrogenation, wherein the catalyst is platinum, palladium, nickel, ruthenium, or salts or oxides thereof.

18. (Previously presented) The process of claim 1, wherein within said compound of formula (V) R^1 represents hydrogen, R^2 represents methoxy, R^3 represents methoxy, R^4 represents hydrogen; said strong acid is selected from methyl sulfonic acid, benzene sulfonic acid, or p-toluenesulfonic acid, wherein said compound of formula (IV) is produced from a compound of formula (V) by catalytic hydrogenation, wherein the catalyst is platinum, palladium, nickel, ruthenium, or salts or oxides thereof.
19. (Currently amended) The process of claim 4, wherein within said compound of formula ~~(V)~~ (III) R^1 represents hydrogen, R^2 represents methoxy, R^3 represents methoxy, R^4 represents hydrogen; said strong acid is selected from methyl sulfonic acid, benzene sulfonic acid, or p-toluenesulfonic acid, wherein said compound of formula (IV) is produced from a compound of formula ~~(V)~~ (III) by catalytic hydrogenation, wherein the catalyst is platinum, palladium, nickel, ruthenium, or salts or oxides thereof.
20. (Previously presented) The process of claim 5, wherein within said compound of formula (V) R^1 represents hydrogen, R^2 represents methoxy, R^3 represents methoxy, R^4 represents hydrogen; said strong acid is selected from methyl sulfonic acid, benzene sulfonic acid, or p-toluenesulfonic acid, wherein said compound of formula (IV) is produced from a compound of formula (V) by catalytic hydrogenation, wherein the catalyst is platinum, palladium, nickel, ruthenium, or salts or oxides thereof.
21. (Previously presented) The process of claim 1, wherein reacting 4-pyridinecarboxaldehyde with a compound of formula (II) in the presence of a stoichiometric amount or a greater than a stoichiometric amount of methyl sulfonic

acid, benzene sulfonic acid, or p-toluenesulfonic acid yields a compound of formula (III), wherein R^1 represents hydrogen, R^2 represents methoxy, R^3 represents methoxy, and R^4 represents hydrogen.

22. (Canceled)

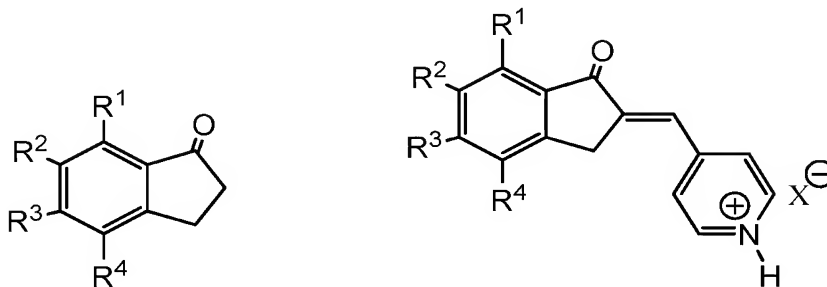
23. (Currently amended) A process for producing a compound of formula (I),



(I)

wherein R^1 and R^4 independently represent H, R^2 , and R^3 , and R^4 each independently ~~represents~~ represent H, F, an alkyl having from 1 to 4 carbon atoms, or an alkoxy having from 1 to 4 carbon atoms; R^5 represents a phenyl or a substituted phenyl; and n is 0, comprising:

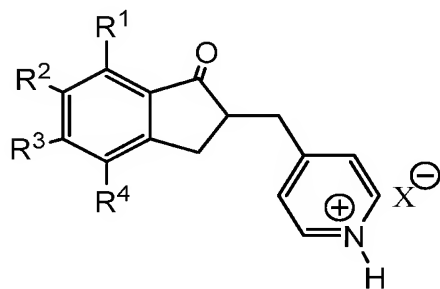
a) a reaction of 4-pyridinecarboxaldehyde with a compound of formula (II) in refluxing toluene, in the presence of at least a stoichiometric amount of a strong acid selected from an alkyl sulfonic acid, benzene sulfonic acid, or a substituted benzene sulfonic acid, ~~hydrochloric acid, sulfuric acid, nitric acid, or phosphoric acid,~~ to form a compound of formula (III);



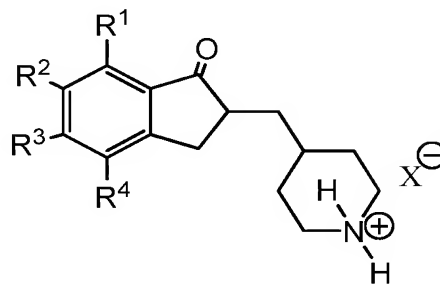
(II)

(III)

b) a catalytic hydrogenation of a compound of formula (III) or the compound of formula (V) in methanol, ethanol, and/or water; ~~with H₂~~ in the presence of Pd/C or PtO₂; at a temperature of between about 0°C and about 150°C, and at a pressure of between about 1 atmosphere and about 100 atmospheres of H₂ to yield a compound of formula (IV); and



(V)

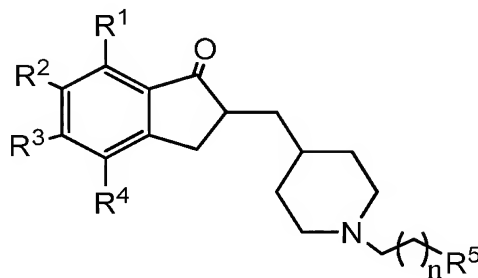


(IV)

c) a reaction of a compound of formula (IV) with a compound of formula $\text{OHC}-(\text{CH}_2)_n\text{R}^5$, wherein R^5 represents a phenyl or a substituted phenyl, and n is 0, and with H_2 , in the presence of a base and Pd/C, at a temperature of from about 0°C to about 150°C, to yield a compound of formula (I);

wherein X^- is an alkyl sulfonate, benzene sulfonate, or a substituted benzene sulfonate, ~~a chloride, a sulfate, a nitrate, or a phosphate.~~

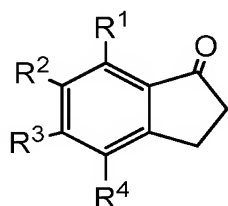
24. (Currently amended) A process for producing a compound of formula (I),



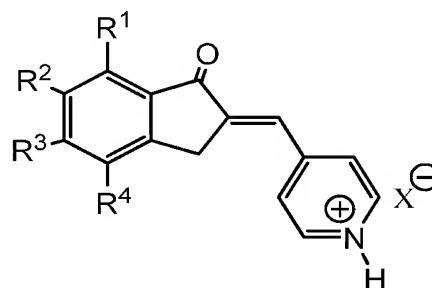
(I)

wherein R^1 and R^4 independently represent H, R^2 , and R^3 , and R^4 each independently represents represent H, F, an alkyl having from 1 to 4 carbon atoms, or an alkoxy having from 1 to 4 carbon atoms; R^5 represents a phenyl or a substituted phenyl; and n is 0, comprising:

a) a reaction of 4-pyridinecarboxaldehyde with a compound of formula (II) in refluxing toluene, in the presence of at least a stoichiometric amount of p-toluenesulfonic acid with respect to the compound of formula (II), to form a compound of formula (III);

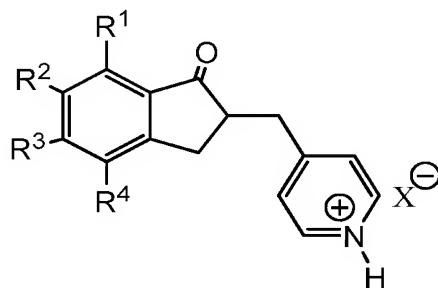


(II)

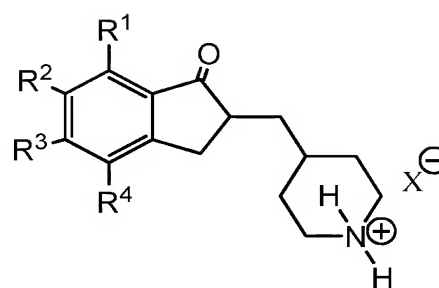


(III)

b) a catalytic hydrogenation of a compound of formula (III) or the compound of formula (V) in methanol and/or water with H_2 in the presence of Pd/C and a base to yield a compound of formula (IV);



(V)



(IV)

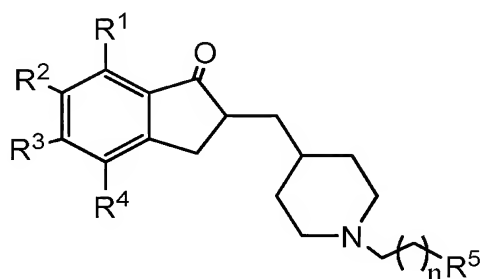
c) a reaction of a compound of formula (IV) with a compound of formula $OHC-(CH_2)_nR^5$, wherein R^5 represents a phenyl or a substituted phenyl, and n is 0,

and with H₂, in methanol, in the presence of Pd/C and a base, at a temperature of from about 0°C to about 150°C, to yield a compound of formula (I);

wherein b) and c) are carried out in situ without purification of the compound of formula (IV); and

X⁻ is ~~an alkyl sulfonate, benzene sulfonate, a substituted benzene sulfonate, a chloride, a sulfate, a nitrate, or a phosphate~~ p-toluene sulfonate.

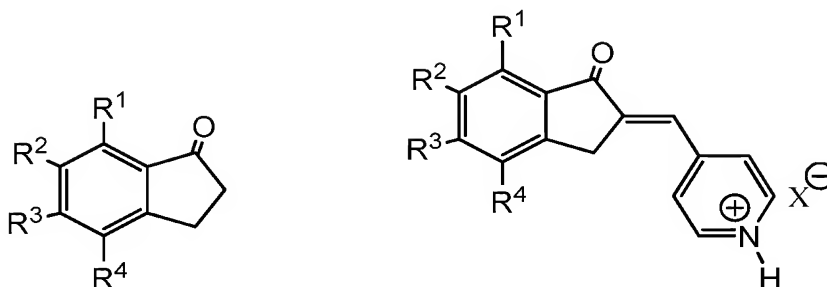
25. (Currently amended) A process for producing a compound of formula (I),



(I)

wherein R¹ and R⁴ independently represent H, R², and R³, ~~and R⁴~~ each independently ~~represents~~ represent H, F, an alkyl having from 1 to 4 carbon atoms, or an alkoxy having from 1 to 4 carbon atoms; R⁵ represents a phenyl or a substituted phenyl; and n is 0, comprising the following steps:

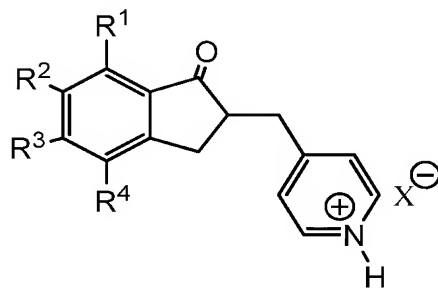
a) a reaction of 4-pyridinecarboxaldehyde with a compound of formula (II) in refluxing toluene, in the presence of a stoichiometric amount of p-toluenesulfonic acid with respect to the compound of formula (II), to form a compound of formula (III);



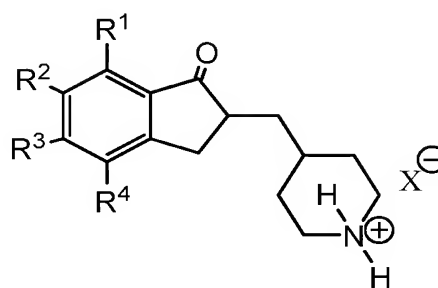
(II)

(III)

b) a catalytic hydrogenation of a compound of formula (III) or the compound of formula (V) in methanol and water with H₂ in the presence of Pd/C ~~and a base~~ to yield a compound of formula (IV); and



(V)



(IV)

c) a reaction of a compound of formula (IV) with a compound of formula OHC-(CH₂)_nR⁵, wherein R⁵ represents a phenyl or a substituted phenyl, and n is 0, and with H₂, in methanol, in the presence of Pd/C and a base, at a temperature of from about 0°C to about 150°C, to yield a compound of formula (I);

wherein b) and c) are carried out in situ without purification of the compound of formula (IV); and

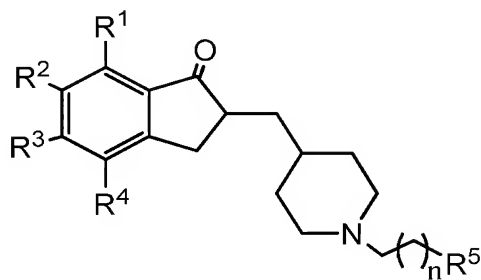
X⁻ is ~~an alkyl sulfonate, benzene sulfonate, a substituted benzene sulfonate, a chloride, a sulfate, a nitrate, or a phosphate~~ p-toluene sulfonate.

26-27. (Canceled)

28. (Previously presented) The process of claim 25, wherein said compound of formula (IV) is produced by the catalytic hydrogenation of said compound of formula (III).

29. (Previously presented) The process of claim 25, wherein R¹ represents hydrogen; R² represents a methoxy; R³ represents a methoxy; R⁴ represents hydrogen; and R⁵ represents a phenyl or a 3-fluorophenyl.

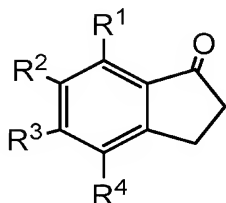
30. (Previously presented) The process of claim 25, wherein said compound of formula (IV) is produced from a compound of formula (III) by catalytic hydrogenation, wherein the catalyst is platinum, palladium, nickel, ruthenium, or salts or oxides thereof.
31. (Previously presented) The process of claim 25, wherein said compound of formula (II) is 5,6-dimethoxy-1-indanone.
32. (Previously presented) The process of claim 25, wherein steps (a)-(c) are carried out in succession and in the order listed.
33. (Previously presented) The process of claim 25, wherein in step (a) the reaction of 4-pyridinecarboxaldehyde with a compound of formula (II) in refluxing toluene is carried out in the presence of a greater than a stoichiometric amount of p-toluenesulfonic acid with respect to the compound of formula (II).
34. (New) A process for producing a compound of formula (I),



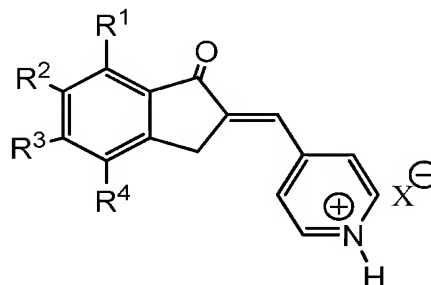
(I)

wherein R¹ and R⁴ independently represent H, R² and R³ independently represent H, F, an alkyl having from 1 to 4 carbon atoms, or an alkoxy having from 1 to 4 carbon atoms; R⁵ represents a phenyl or a substituted phenyl; and n is 0, wherein the process comprises:

a) a reaction of 4-pyridinecarboxaldehyde with a compound of formula (II) in refluxing toluene or benzene, in the presence of a stoichiometric amount or a greater than a stoichiometric amount of a strong acid selected from an alkyl sulfonic acid, benzene sulfonic acid, or a substituted benzene sulfonic acid, to form a compound of the formula (III);

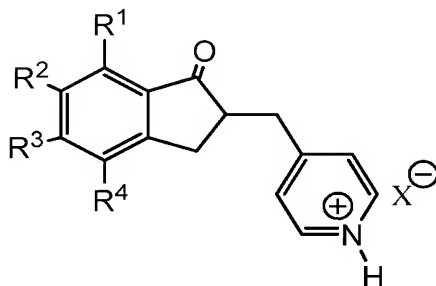


(II)

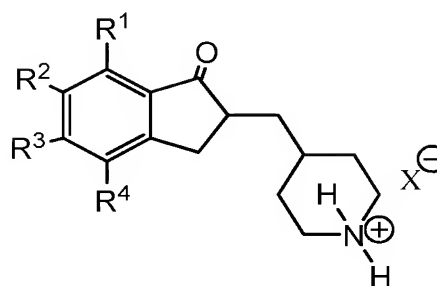


(III)

b) a catalytic hydrogenation of a compound of formula (III) in a solvent selected from water, an alcohol, an ether, an ester, or an organic acid, in the presence of a catalyst selected from platinum, palladium, nickel, ruthenium, or salts or oxides thereof, at room temperature and at a pressure of 1 atmosphere of H₂ to yield a compound of formula (IV); and



(V)



(IV)

c) an N-alkylation reaction of a compound of formula (IV) with a compound of formula Y-(CH₂)_{n+1}R⁵, wherein Y represents a chlorine atom, a bromine atom, or an iodine atom; in the presence of base at a temperature of from about 0°C to about 150°C to yield a compound of formula (I);

wherein X^- is an alkyl sulfonate, benzene sulfonate, or a substituted benzene sulfonate.